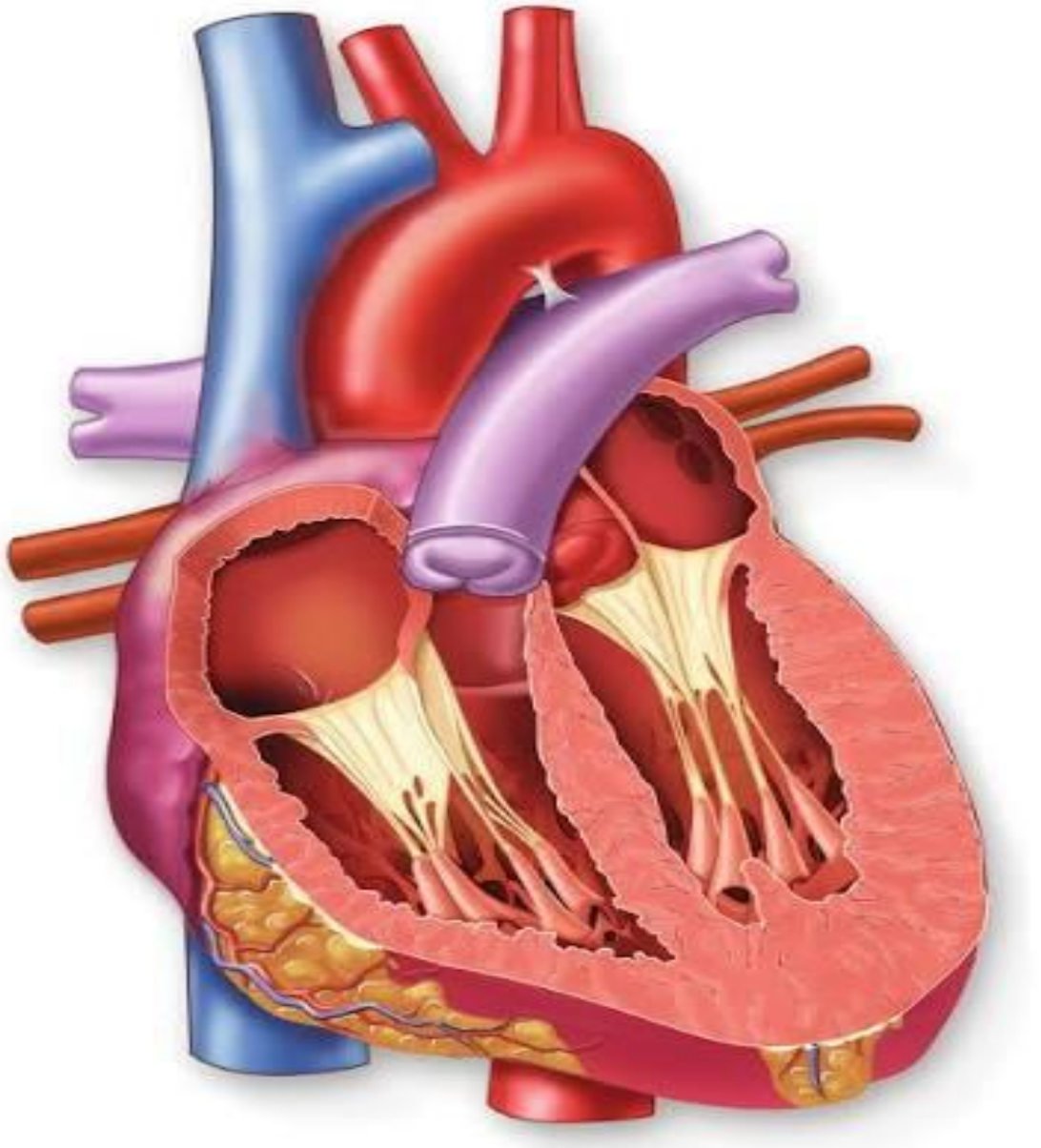
LIAQUAT NATIONAL HOSPITAL AND MEDICAL COLLEGE

Institute for Postgraduate Medical Studies & Health Science

CARDIO VASCULAR SYSTEM II MODULE

3rd August TO 2nd September 2026



STUDY GUIDE FOR CARDIOVASCULAR SYSTEM II MODULE

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Module name: **CVS II** *Year:* ***Three*** *Duration:* ***5 weeks (Aug – Sept 2026)***

Timetable hours: **Interactive Lectures, Case-Based Integrated Learning (CBIL), Clinical Rotations, Laboratory, Practical, Demonstrations, Skills, Self-Study**

MODULE INTEGRATED COMMITTEE

MODULE COORDINATOR:	• **Dr. Aitmaud-Ud-Daulah Khan**
CO-COORDINATORS:	• **Dr. Asra Zia**

DEPARTMENTS & RESOURCE PERSONS

BASIC HEALTH SCIENCES	CLINICAL AND ANCILLARY DEPARTMENTS
COMMUNITY MEDICINE **Prof. Saima Zainab**	*CARDIOLOGY* **Dr. Hafeez Ahmed**
FORENSIC MEDICINE **Prof. Syed Mukkaram Ali**	*INTERNAL MEDICINE* **Prof. Karim Ullah Makki**
MICROBIOLOGY **Prof. Shaheen Sharafat**	*GENERAL SURGERY* **Dr. Faisal Siddiqi**
PATHOLOGY **Prof. Naveen Faridi**	*VASCULAR SURGERY* **Prof. Kamal Muhammad Yousuf**
PHARMACOLOGY **Prof. Tabassum Zehra**	
RESEARCH & SKILLS DEVELOPMENT CENTER **Dr. Kahkashan Tahir**	
DEPARTMENT of HEALTH PROFESSIONS EDUCATION **Prof. Sobia Ali** **Prof. Nighat Huda** **Dr. Afifa Tabassum** **Dr. Yusra Nasir** **Dr. Asra Zia** **Dr. Maryam Fatima**	
LNH&MC MANAGEMENT • **Prof. Karimullah Makki, Principal LNH&MC** • **Dr. Shaheena Akbani, Director A.A & R.T LNH&MC**	
STUDY GUIDE COMPILED BY: Department of Health Professions Education	

INTRODUCTION

WHAT IS A STUDY GUIDE?

It is an aid to:

- Inform students how the student learning program of the module has been organized
- Help students organize and manage their studies throughout the module
- Guide students on assessment methods, rules, and regulations

THE STUDY GUIDE:

- Communicates information on the organization and management of the module. This will help the student to contact the right person in case of any difficulty.
- Defines the objectives which are expected to be achieved at the end of the module.
- Identifies the learning strategies such as Interactive Lectures, small group teachings, clinical skills, demonstrations, tutorials, and case-based learning that will be implemented to achieve the module objectives.
- Provides a list of learning resources such as books, computer- assisted learning programs, web- links, and journals, for students to consult to maximize their learning.
- Highlights information on the contribution of continuous and module examinations on the student's overall performance.
- Includes information on the assessment methods that will be held to determine every student's achievement of objectives.
- Focuses on information about examination policy, rules, and regulations.

CURRICULUM FRAMEWORK

Students will experience an integrated curriculum similar to previous modules**.**

INTEGRATED CURRICULUM comprises system-based modules such as Foundation II, Blood II, Locomotor II, Respiratory system-II, CVS-II, and GIT Liver II which links basic science knowledge to clinical problems. Integrated teaching means that subjects are presented as a meaningful whole. Students will be able to have a better understanding of basic sciences when they repeatedly learn about clinical examples.

LEARNING EXPERIENCES: Case-based integrated discussions, and skills acquisition in the skills lab. Computer-based assignments, learning experiences in clinics, wards, and outreach centers

INTEGRATING DISCIPLINES OF CARDIOVASCULAR SYSTEM II

LEARNING METHODOLOGIES

The following teaching/learning methods are used to promote better understanding:

- Interactive Lectures
- Tutorial
- Case- Based Learning (CBL)
- Clinical Rotations
- Skills session
- Self-Directed Learning

INTERACTIVE LECTURES: In a large group, the Interactive Lectures introduce a topic or common clinical conditions and explains the underlying phenomena through questions, pictures, videos of patients' interviews, exercises, etc. Students are actively involved in the learning process.

TUTORIAL: This format helps students to clarify concepts, and acquire skills or desired attitudes. Sessions are structured with the help of specific exercises such as patient cases, interviews, or discussion topics. Students exchange opinions and apply knowledge gained from Interactive Lectures, tutorials, and self-study. The facilitator's role is to ask probing questions, summarize, or rephrase to help clarify concepts.

CASE-BASED LEARNING (CBL): A small group discussion format where learning is focused on a series of questions based on a clinical scenario. Students discuss and answer the questions b y applying relevant knowledge gained previously in clinical and basic health sciences during the module and constructing new knowledge. The CBIL will be provided by the concerned department.

CLINICAL LEARNING EXPERIENCES: In small groups, students observe patients with signs and symptoms in hospital wards, clinics, and outreach centers. This helps students to relate knowledge of basic and clinical sciences of the module and prepare for future practice.

- **CLINICAL ROTATIONS:** In small groups, students rotate in different wards like Medicine, Pediatrics, Surgery, Obs & Gyne, ENT, Eye, Family Medicine clinics, outreach centers & Community Medicine experiences. Here students observe patients, take histories and perform supervised clinical examinations in outpatient and inpatient settings. They also get an opportunity to observe medical personnel working as a team. These rotations help students relate basic medical and clinical knowledge in diverse clinical areas.

SKILLS SESSION: Skills relevant to the respective module are observed and practiced where applicable in the skills laboratory.

SELF-DIRECTED LEARNING Students assume responsibilities for their learning through individual study, sharing and discussing with peers, and seeking information from Learning Resource Center, teachers, and resource persons within and outside the college. Students can utilize the time within the college's scheduled hours of self-study.

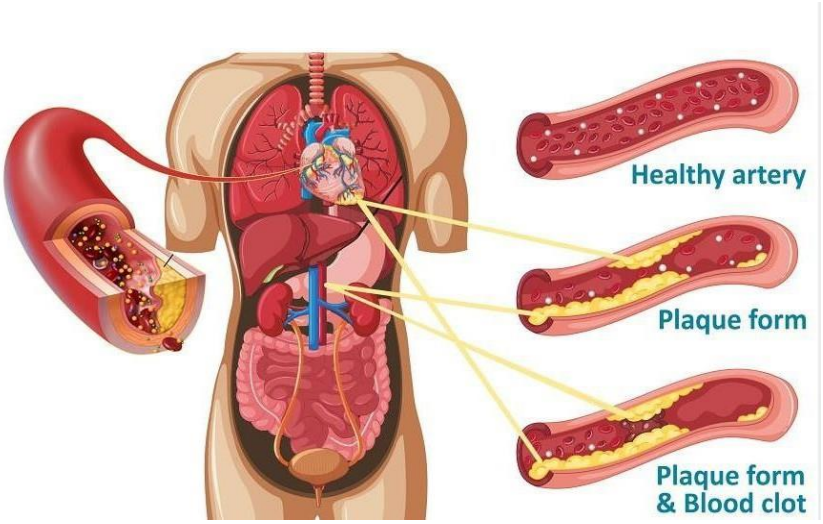
MODULE 5: CVS II

INTRODUCTION

Cardiovascular module (I) in year 1 covered basic medical sciences concepts for understanding the causes and treatment of diseases.

CVS (II) will now focus on common clinical presentations along with treatment options, relevant investigations, and prevention. Students will have opportunities to relate their knowledge of the diseases such as congenital heart diseases, hyperlipidemia and hypertension, diseases of the vessel wall, ischemic heart diseases, valvular heart diseases, arrhythmias, cardiac failure, and infections. Sessions on preventive medicine and healthy lifestyle will have significant importance. Students will be engaged in CVS history taking and physical examination both in adults and children to enhance their clinical examination skills of the students. The module will enable students to relate their theoretical learning through case-based learning, interactive Lectures, patient, simulated-based experiences, and video-based learning.

Forensic Medicine will run parallel with the module.



COURSE OBJECTIVES AND STRATEGIES

At the end of the module, the students will be able to:

ANATOMY

TOPICS & OBJECTIVES	LEARNING STRATEGIES
Functional Anatomy of CVS	Interactive Lecture
• Discuss the coronary circulation and its clinical importance	
• Discuss the conducting system of the heart and its blood supply	

CARDIOLOGY

TOPICS & OBJECTIVES	LEARNING STRATEGIES
1. Hypertensive Vascular Disease and Hypertensive heart disease	Interactive Lecture
• Discuss vascular wall injury response	
• Discuss the causes, pathogenesis, and morphology of hypertensive vascular injury	
• Explain types of hypertensive heart disease	
2. History, Examination, Lab Investigation, and Epidemiology Related To CVS	Small Group Discussion
• Demonstrate all the steps History Taken by the Patient with Chest Pain and CVS examination	
3. Heart Failure	Interactive Lecture
• Define cardiac failure	
• Discuss the etiology, pathogenesis, morphology, and clinical features of left-sided and right-sided heart failure	
4. Arrhythmias	
• Define Arrhythmias	
• Classify Arrhythmias	
• Discuss the clinical features of Arrhythmias	
• List the causes of Arrhythmias	
• List the investigations related to Arrhythmias	
5. Valvular Heart Diseases	
• Define Valvular heart diseases	
• Classify Valvular heart diseases	
• Discuss the clinical features of Valvular heart diseases	
• List the causes of Valvular heart diseases	
• List the investigations related to Valvular heart diseases	
6. ECG Interpretation	Small Group

• Interpret 12-lead electrocardiogram to determine the rate, rhythm, axis, intervals, and acute ischemic changes	Discussion
• Discuss the ECG changes of angina and myocardial Infarction	
7. Rheumatic Heart Disease	Interactive Lecture
• Describe the signs and Symptoms & diagnostic criteria of Rheumatic Heart Disease	
• Explain the process of control and prevention of Rheumatic heart disease	
8. Disorders of Blood Vessel Hyperreactivity, Veins, and Lymphatics	
• Discuss various disorders of blood vessel hyperreactivity, veins, and lymphatics including:	
i. Raynaud Phenomenon	
ii. Myocardial Vessel Vasospasm	
iii. Veins and Lymphatics	
iv. Varicose Veins	
v. Thrombophlebitis and	
vi. Phlebothrombosis	
vii. Superior and Inferior Vena Cava Syndromes	
viii. Lymphangitis and Lymphedema	

COMMUNITY MEDICINE

TOPICS & OBJECTIVES	LEARNING STRATEGIES
1. Coronary heart disease and its prevention	Tutorial
• Describe coronary heart diseases	
• Discuss the epidemiology of coronary artery diseases	
• Describe the prevention and control of coronary artery diseases	
2. Hypertension	Tutorial
• Classify Hypertension	
• Describe the epidemiology of hypertension	
• Explain the “rule of halves” in hypertension	
• Discuss prevention and control	
3. Rheumatic Heart Disease	Interactive Lecture/ Tutorial
• Describe Rheumatic Heart Disease	
• Describe the epidemiology, signs, and symptoms & diagnostic criteria of Rheumatic Heart Disease	
• List the diagnostic criteria of Rheumatic Heart Disease	
• Discuss prevention and control of Rheumatic Heart Diseases	
4. Preventive Cardiology	Interactive Lecture/ Tutorial
• Describe the basics of Cardiovascular Disorders	
• Discuss the Global Burden of Cardiovascular Disorders	
• List the risk factors of Cardiovascular Disorders	
• Explain preventive measures of Cardiovascular Disorders	

FORENSIC MEDICINE

TOPICS & OBJECTIVES	LEARNING STRATEGIES
1. Forensic Sexology I: Virginity & Pregnancy and their medico-legal Perspectives	Interactive Lecture
• Describe signs of virginity on medico-legal examination	
• List the differences between true and false virgin on examination	
• Define defloration along with causes of rupture of the hymen	
• State the method of estimation of the duration of a torn hymen	
• Calculate EDD (Expected date of delivery)	
• List the signs of pregnancy (presumptive, probable, and definite signs)	
• Describe the diagnosis of pregnancy in medico-legal cases	
• List the motives of feigned pregnancy	
• List the abnormal forms of pregnancy	
• Define Legitimacy and legitimate child as per law	
2. Forensic sexology II: Delivery and its medico-legal aspects	Interactive Lecture
• Describe signs of recent delivery in living and in dead	
• Describe the signs of remote delivery in living and dead	
• State the medico-legal aspects of delivery	
3. Forensic sexology III: Impotence, Sterility & Artificial Insemination	Interactive Lecture
• Define consummation of marriage	
• List the causes of nullity of marriage and divorce from legal aspects	
• Describe Impotency and sterility with legal dictums	
• List the causes of impotency and sterility	
• Mention the steps of examination of a case of impotency and how to give an opinion in such a case	
• Discuss artificial insemination, its types, procedure, precautions in selecting a donor, and legal implications, Surrogate birth	
4. Forensic sexology IV: Abortion & its medico-legal aspects	Interactive Lecture
• Define the types of abortion	
• List the grounds for abortion with special emphasis on pregnancy after rape	
• Define criminal abortion, its type according to the Pakistan Penal Code, and unskilled, semi-skilled, and skilled methods of criminal abortion	
• List the complications of Criminal Abortion	
• List the causes of death in criminal abortion and autopsy findings	
5. Forensic sexology V: Natural Sexual offenses (Rape & Incest)	Interactive Lecture
• Classify sexual offenses	
• State the legal definition of Rape	
• Mention the procedure of examination of a victim of rape, collection of specimens during the examination	
• Mention the procedure of examination of an accused person	
• Discuss rape in children	
• List the complications following rape with special stress on Post-traumatic Stress Disorder	
• List the problems in the medico-legal examination of victims of rape	
• Define Incest and its legal aspects	
6. Forensic sexology VI: Unnatural sexual offense	
• Describe the legal definition of sodomy and its types	

• Discuss the steps of examination of a victim of Sodomy, a habitual passive agent (Catamite), and a habitual active agent (Sodomite)	Interactive Lecture
• Describe the method of collection of samples from the passive and active agent	
• Describe the following:	
o Bestiality and the method of examination in such cases	
o Tribadism or female homosexuality and its legal aspects	
o Buccal coitus	
7. Forensic Sexology VII: Sexual Perversions	Tutorial
• Define a sexual pervert	
• List the various types of sexual perversions with special emphasis on Sadism, lust murder, necrophilia, necrophagia, Masochism, Transvestism Transsexualism, and other sexual perversions and their medicolegal aspects	
8. Aspirin and Paracetamol poisoning	Interactive Lecture
• Describe the mode of action, signs and symptoms, fatal dose, fatal period, treatment, and medico-legal importance of aspirin & paracetamol poisoning	
9. Toxicology- Cardiac poisons	Tutorial
• Describe the mode of action, signs and symptoms, treatment, postmortem findings, and medico-legal importance of the Cardiac poisons; Digitalis, Aconite, and Nicotine	
10. Forensic Sexology: Medico-legal Report of Case of sexual assault	Tutorial
• Describe the procedure of taking swabs in cases of victims of rape and sodomy	
• Write the medico-legal report of rape and sodomy cases based on given scenarios	
11. Forensic Lab Techniques	Tutorial
• Describe the technique and medico-legal importance of Polygraph and Brain Finger Printing	
• Discuss the importance of questioned documents in Forensic investigation	
• Describe the Forensic Lab	
12. Cannabis & Cocaine Poisoning	Tutorial
• Describe the mode of action, signs and symptoms, treatment, postmortem findings, and medico-legal importance of Cannabis & Cocaine	

INTERNAL MEDICINE

TOPICS & OBJECTIVES	LEARNING STRATEGIES
1. Approach to Patient with Chest Pain	Interactive Lecture
• Explain the etiology, differential diagnosis, clinical features and investigations for patients with chest pain	
• Discuss the outline of management plan for such conditions	
2. ECG Interpretation	
• Interpret ECGs related to various common cardiac conditions (Angina, MI, Arrhythmias)	

MICROBIOLOGY

TOPICS & OBJECTIVES	LEARNING STRATEGIES
Pathogens causing Cardiovascular diseases	Interactive Lecture
• List the pathogens causing cardiovascular diseases	
• Discuss in detail the organism Streptococcus viridian's group Epstein bar virus, Trypanosoma	
• Discuss briefly the properties, pathogenesis, transmission, clinical findings, laboratory diagnosis epidemiology, treatment, and prevention of other pathogens causing CVS diseases	

PATHOLOGY

TOPICS & OBJECTIVES	LEARNING STRATEGIES
1. Hypertensive Vascular Disease & Hypertensive heart disease	Interactive Lecture
• Discuss vascular wall injury response	
• Discuss the causes, pathogenesis, and morphology of hypertensive vascular injury	
• Explain types of hypertensive heart disease	
2. Atherosclerosis	Interactive Lecture/ Tutorial
• Define Arteriosclerosis & Atherosclerosis	
• Describe the epidemiology and risk factors of Atherosclerosis	
• Discuss in detail the pathogenesis, morphology, and clinical consequences of Atherosclerotic disease	
• Discuss the risk factors and morphology of atherosclerosis	
3. Aneurysms and Dissection	Interactive Lecture
• Define aneurysm and dissection of the vessel wall	
• Explain the pathogenesis, morphology & clinical features of aneurysms	
• Discuss Aortic dissection with relation to pathogenesis, morphology & clinical features	
4. Vasculitis	
• Define Vasculitis	
• List the types of vasculitis	
• Discuss the etiology, pathogenesis, morphology, and clinical features of various types of Vasculitis	
5. Disorders of blood vessel hyper-reactivity, veins, and lymphatics	
• Discuss various disorders of blood vessel hyper-reactivity:	
i. Raynaud Phenomenon	
ii. Myocardial Vessel Vasospasm	
• Discuss various disorders of veins and lymphatics including:	
i. Varicose Veins	
ii. Thrombophlebitis and	
iii. Phlebothrombosis	
iv. Superior and Inferior Vena Cava Syndromes	
v. Lymphangitis and Lymphedema	
6. Vascular Tumors	

• Classify vascular tumors	Interactive Lecture/ Tutorial
• Discuss benign, borderline, and malignant vascular tumors concerning etiology, pathogenesis, and morphology	
• Discuss vascular tumors with special emphasis on morphological aspects	
7. Heart Failure	Interactive Lecture
• Define cardiac failure	
• Discuss the etiology, pathogenesis, morphology, and clinical features of left-sided and right-sided heart failure	
8. Congenital Heart Disease I	
• Classify congenital heart diseases into left to right, right to left shunt, and congenital obstructive diseases	
• Explain the pathophysiology, morphology, and clinical features of congenital obstructive diseases	
9. Congenital Heart Disease II	
• Explain the pathophysiology, morphology, and clinical features of right to left shunt	
10. Ischemic Heart Disease 1	
• Define ischemic heart disease & myocardial infarction (MI)	
• Discuss the significance of time in diagnosing and treating acute MI	
• Describe the morphological features of MI	
• Discuss the clinical features of an acute attack of MI	
• Discuss the laboratory evaluation, consequences, complications, and prognosis of MI	Interactive Lecture/ Tutorial
• Discuss the morphological features of MI	
• Elaborate on the clinical features of an acute attack of MI	
• Discuss its Laboratory evaluation	
11. Ischemic Heart Disease 2	
• Define Coronary Artery Disease (CAD)	
• Discuss its consequences and various clinical presentations	
• Explain its epidemiology and risk factors	
• Describe Angina and its types	
• Discuss the coronary blood supply and types of infarction	
• Discuss briefly the features of chronic IHD and sudden cardiac death	
12. Valvular Heart Disease & Non-infected vegetation	Interactive Lecture/ Tutorial
• Classify valvular defects of mitral and aortic valves valvular heart disease	
• Discuss the etiology, pathogenesis, morphology, and clinical features of infective endocarditis, rheumatic fever, and rheumatic heart disease	
• Discuss non-infected vegetation of the heart	
13. Cardiomyopathies & Myocarditis	Interactive Lecture/ Tutorial
• Define cardiomyopathy	
• Discuss types of cardiomyopathies	
• List the conditions associated with cardiomyopathy	
• Explain the morphology and clinical features of cardiomyopathy	
• List the causes of myocarditis	
• Discuss the morphology of myocarditis	
14. Pericardial diseases & tumors of the heart	

• Define pericardial effusion & Hemopericardium	
• Discuss causes, pathogenesis & morphology of different types of pericarditis	
• Classify tumors of the heart	
• Discuss the pathogenesis and morphology of primary tumors of the heart	
• Discuss the clinical effects of non-cardiac neoplasms	
15. Pathogens causing Cardiovascular diseases	
• List the pathogens causing cardiovascular diseases	
• Discuss in detail the properties, pathogenesis, transmission, clinical findings, laboratory diagnosis epidemiology, treatment and prevention of Streptococcus viridians, Staphylococcus epidermidis, Trypanosome	
• Discuss briefly Coxsackie virus, Cytomegalovirus and Epstein- Barr virus in relation to cardiac infections.	
16. Pathogens causing Sepsis and Septic Shock	
• Define sepsis, septic shock, septicemia and bacteremia	
• List the organisms causing sepsis	
• Discuss pathophysiology of sepsis and septic shock.	
• Describe the important properties, transmission, clinical findings and laboratory diagnosis of shock.	
17. Interpretation of lipid profile	Tutorial
• Discuss the result of lipid profile which can identify certain genetic disease and risk for cardiovascular diseases.	

PHARMACOLOGY

TOPICS & OBJECTIVES	LEARNING STRATEGIES
1. Drug therapy for Acute Coronary Syndrome (ACS)	Skill-Based Learning/Tutorial
• Discuss classification, basic & clinical pharmacology of different drug groups used in ACS	
2. Drugs used in the treatment of Angina pectoris & Myocardial Infarction	Case-Based Learning
• Classify Anti-Anginal drugs	
• Explain the basic & clinical pharmacology of Anti-Anginal drugs	
• Discuss the treatment of ischemic heart diseases (IHD) including the basic & clinical pharmacology of these drugs	
3. Anti-hypertensive Drugs I & II	Interactive Lecture
• Discuss drugs of different classes used to treat HTN	
• Explain their basic & clinical pharmacology	
4. Drug therapy for Congestive Heart Failure (CCF)	Interactive Lecture
• Discuss the classification of drugs used in cardiac failure	
• Explain their basic and clinical pharmacology	
5. Drug treatment of cardiac arrhythmia	Skill-Based Learning/Tutorial
• Classify anti-arrhythmic drugs	
• Explain the basic & clinical pharmacology of anti-arrhythmic drugs	
6. Anti-hyperlipidemic drugs	Case-Based Learning
• Classify Anti-hyperlipidemic drugs	
• Discuss their basic and clinical pharmacology	
7. Vasoactive Peptides	
• Classify vasoactive peptides	

• Discuss the clinical importance and properties of different vasoactive peptides	
• Describe the basic and clinical pharmacology of vasoactive peptides	
8. Evaluate the Effects of Given Drugs on Frog's heart.	
• Prepare Ringers solution for Frog's heart muscle.	
• Demonstrate the effects of given drugs (Drug A, B, C) on frog's heart by using the Power Lab system.	

RESEARCH

TOPICS & OBJECTIVES	LEARNING STRATEGIES
1. Inferential Statistics	Interactive Lecture/ Tutorial
• Describe inferential statistics	
• Apply inferential statistics in given examples	
• Interpret the confidence interval, hypothesis testing	
2. Parametric Tests	
• Describe parametric tests	
• Apply parametric tests in the given examples	Interactive Lecture/Tutorial
• Interpret the z-test, t-test, and ANOVA.	
3. Chi-Square Test	
• Describe chi-square test	
• Explain the conditions for the application of the chi-square test	
• Apply Chi-Square statistical tests to Analyze data using SPSS	

GENERAL SURGERY

TOPICS & OBJECTIVES	LEARNING STRATEGIES
1. Shock	Interactive Lecture/ Tutorial
• Define shock	
• Classify shock	
• Explain the: I. Pathophysiology of Shock II. cardiovascular and metabolic characteristics of shock III. Severity and consequences of shock	
• Describe the principles of Resuscitation, fluid therapy	
2. Hemorrhage	Interactive Lecture/Tutorial
• Define Hemorrhage	
• Classify hemorrhage and its degrees	
• List the indications for transfusion, transfusion of blood and	
• Blood components for hemorrhage	
• Discuss the hazards of massive blood transfusion & transfusion	

VASCULAR SURGERY

TOPICS & OBJECTIVES	LEARNING STRATEGIES
1. Arterial disorders	Interactive Lecture/ Tutorial
• Identify the signs, symptoms, and diagnostic tests and treatment plans for acute and chronic arterial limb ischemia	
• Differentiate among dry, wet, and diabetic gangrene.	
• Describe the signs, symptoms, diagnostic tests, and treatment options for each type of arterial gangrene.	
2. Venous Disorders:	Interactive Lecture/Tutorial
• Describe the pathophysiology of the veins of the lower limb.	
• Identify the clinical features of venous hypertension of the leg.	
• Outline the clinical picture of varicose veins and venous ulcers.	
• Classify varicose veins.	
• Explain the etiology, pathogenesis, clinical features, investigations and treatment options for varicose veins and venous ulcers	
• Explain the etiology, risk factors, pathogenesis, clinical presentation, management options and complications of venous thrombo-embolism	

3. Lymphatic Disorders:	
● Differentiate between congenital and acquired lymphatic disorders on the basis of their pathophysiology i. Discuss pathophysiology, diagnostic criteria, management plans and complications for: ii. Lymphadenopathy iii. Lymphangitis	Interactive Lecture/Tutorial

Apart from attending daily scheduled sessions, students should engage in self-study to ensure that all the objectives are covered

LEARNING RESOURCES

SUBJECT	*RESOURCES*
ANATOMY	**TEXTBOOKS** 1. K.L. Moore, Clinically Oriented Anatomy
COMMUNITY MEDICINE	**TEXTBOOKS** 1. Preventive and Social Medicine by K Park 2. Community Medicine by M Illyas 3. Basic *Statistics* for the Health Sciences by Jan W Kuzma
FORENSIC MEDICINE	**TEXTBOOKS** 1. Nasib R. Awan. Principles and practice of Forensic Medicine 1st ed. 2002. 2. Parikh, C.K. Parikh's Textbook of Medical Jurisprudence, Forensic Medicine and Toxicology. 7th ed.2005. **REFERENCE BOOKS** 3. Knight B. Simpson's Forensic Medicine. 11th ed.1993. 4. Knight and Pekka. Principles of forensic medicine. 3rd ed. 2004 5. Krishan VIJ. Textbook of forensic medicine and toxicology (principles and practice). 4th ed. 2007 6. Dikshit P.C. Textbook of forensic medicine and Toxicology. 1st ed. 2010 7. Polson. Polson's Essential of Forensic Medicine. 4th edition. 2010. 8. Rao. Atlas of Forensic Medicine (latest edition). 9. Rao.Practical Forensic Medicine 3rd ed,2007. 10. Knight: Jimpson's Forensic Medicine 10th 1991,11th ed.1993 11. Taylor's Principles and Practice of Medical Jurisprudence. 15th ed.1999 **CDs:** 1. Interactive Lectures s on Forensic Medicine. 2. Atlas of Forensic Medicine. **WEBSITES:** www.forensicmedicine.co.uk
PATHOLOGY	**TEXTBOOKS** 1. Robbins & Cotran, Pathologic Basis of Disease, 9th edition. 2. Rapid Review Pathology, 4th edition by Edward F. Goljan MD **WEBSITES:** 1. http://library.med.utah.edu/WebPath/webpath.html 2. http://www.pathologyatlas.ro/
PHARMACOLOGY	**TEXTBOOKS** 1. Lippincott Illustrated Pharmacology 2. Basic and Clinical Pharmacology by Katzung

ASSESSMENT METHODS:

- MCQs (Multiple Choice Questions)
- **Objective Structured Practical/Clinical Examination (OSPE or OSCE)**
- MCQs and unobserved OSPE will be conducted on the LNH&MC Moodle platform
- Observed OSPE will constitute multiple examiner-based stations

Internal Evaluation

- Students will be assessed comprehensively through multiple methods.
- 20% marks of internal evaluation will be added to JSMU final exam. That 20% includes mid-module & end of module examinations, mid-term & pre-professional examinations.

Formative Assessment

Individual departments may hold quizzes or short answer questions to help students assess their learning. The marks obtained are not included in the internal evaluation

For JSMU Examination Policy, please consult the JSMU website!

More than 75% attendance is needed to sit for the internal and final examinations

LNH&MC EXAMINATION RULES & REGULATIONS

- Students must report to the examination hall/venue, 30 minutes before the exam.
- **The exam will begin sharply at the given time.**
- No student will be allowed to enter the examination hall after 15 minutes of the scheduled examination time.
- Students must sit according to their roll numbers mentioned on the seats.
- **Cell phones are strictly not allowed in the examination hall.**
- If any student is found with a cell phone in any mode (silent, switched off, or on) he/she will not be allowed to continue their exam.
- No students will be allowed to sit in exams without University Admit Card, LNMC College ID Card, and Lab Coat.
- Students must bring the following stationary items for the exam: Pen, Pencil, Eraser, and Sharpener.
- Indiscipline in the exam hall/venue is not acceptable. Students must not possess any written material or communicate with their fellow students.

SCHEDULE:

WEEKS	3RD YEAR	MONTH
5 WEEKS	CARDIOVASCULAR II MODULE	3rd August 2026 2nd September 2026
• Locomotor II • Respiratory II • GIT II		